

SCIENCE IN GERMANY

(From a German Correspondent.)

IT is not only due to the quantitative increase of scientific work, but also to the exigencies of the division of labour, that the German serials dedicated to zoological and anatomical research have been augmented by two new ones this year.

The *Morphologisches Jahrbuch*, edited by Carl Gegenbaur, Professor at Heidelberg, unites anatomy and the history of the development of animals in their mutual and intimate relation as animal morphology. It has for its first object the recognition of the intimate relations amongst different degrees of animal organisation, and further, to consider the anatomy of man as illustrated by the knowledge of the construction of lower organisms. This programme evidently excludes all descriptions and one-sided observations which cannot be used for the above purpose. The first number contains papers on the extreme ends of the animal world, viz., Man and Infusoria, and thus illustrates the end in view most perfectly. The *Jahrbuch* will be supplemented annually by a yearly report of the progress of the anatomy of Vertebrata. This serial appears quarterly in numbers of from 6 to 10 sheets of text, with plates, at the price of from 6 to 9 marks.

Zeitschrift für Anatomie und Entwicklungsgeschichte ("Journal of Anatomy and History of Development"), edited by W. His and W. Braune, Professors of Anatomy at the University of Leipzig. The principal object of this new serial is to be the knowledge of the human body; but papers will also be received which touch upon this theme from a somewhat more distant point of view. At the same time attention will also be turned to the practical side of this subject as well as the theoretical, and materials will be offered to the medical man which will be of immediate use to him in his sphere of action. The double number published of this serial shows that its programme has very wide limits and will eventually be of interest to the zoologist and anatomist, as well as to the practical physician. A number of this serial will be published every two months, containing about five sheets of text and five plates, at the price of from 6 to 8 marks.

NOTES

THE Local Secretaries of the Bristol Meeting of the British Association are doing all in their power to make it in every way a success, and to secure the comfort and enjoyment of those members who may attend; and we think we may promise all who do a pleasant time of it. Although the railway companies have obdurately refused to grant any special concessions to those who will attend the Bristol Meeting, we have reason to believe that the usual complaints as to hotel charges will not have to be made; all the principal hotels have given assurance that their tariffs will not be raised, except in the case of beds, the charge for which, quite naturally, will be slightly increased. There are many places of scientific as well as general interest in and around Bristol; and the Bristol Museum, one of the best provincial collections in the kingdom, will be temporarily enlarged for the occasion. Excursions to various places will be arranged, and the Mayor and inhabitants of Bath have signified their wish to receive a visit from the Association. At the *soirée* on August 26 the Bristol Microscopical Society, assisted by the Naturalists' Society and the Bath Microscopical Society, has undertaken to give a systematic microscopic demonstration of the natural history of the neighbourhood; a novel feature will be the number of living objects which will be exhibited. At the second *soirée*, Aug. 31, a number of objects of great scientific interest will be exhibited. A special Guide Book is being

compiled, and a very useful map of the country for many miles round Bristol has been prepared.

THE section of the Eclipse Expedition which went to Camorta returned last week. No detailed news has been received from the Siam party.

AT its last private sitting, the Paris Academy of Sciences was apprised by its Administrative Commission that the expense for the several Transit of Venus expeditions had exceeded by 80,000 francs the sum granted by the Government. A supplementary credit will be asked for from the Versailles Assembly; and M. Leverrier proposed to offer to the Government the instruments used by the several expeditions, which now belong to the Academy. These 6-inch and 8-inch refractors are large enough to be utilised in the establishment of local observatories in several provincial towns of France and Algiers. The motion was unanimously accepted on condition that the said instruments should be lent to the Academy for the Transit expeditions of 1882.

THE number of Prof. Huxley's students in Edinburgh University now amounts to upwards of 350.

THE gentlemen whose names we mentioned in a previous number (vol. xi. p. 497), were, at the annual election meeting of the Royal Society last Thursday, elected Fellows.

THE Norwegian Government has granted a credit of 4,000*l.* for an expedition to be sent out next year under the scientific direction of Dr. Mohn, for the exploration of the sea between Iceland, the Faroe Islands, Spitzbergen, and Jan Mayen. The commander of this expedition will be Capt. Carr Wile, of the Royal Norwegian Navy, who is now in England gathering information as to the work done by the *Challenger*.

WE take the following from the *Academy*:—Under the title of the Belgian Society of Dredging and Marine Exploration, a society has been formed for the systematic exploration of the North Sea. The annual subscription is to be 15 francs. The materials as collected are to be submitted to various scientific men who have made the different departments their special study, and are afterwards to go to form a central collection accessible to all the members. Duplicate specimens not required for this purpose are to be sold each year at one of the meetings of the Society. The circular which has been issued suggests that, by means of such a society, Belgium may be able to contribute its share to the advancement of that branch of science for which so much has been done by our own countrymen. We need not say that we wish it every success.

WE are glad to learn that Capt. Hoffmeyer, director of the Royal Danish Meteorological Institute at Copenhagen, intends to continue the publication of his daily Synoptic Meteorological Charts for the third quarter, June to August 1874. The charts are constructed from every available source for the region embraced, viz., from about lat. 30° to 70° N., and from long. 40° W. to 40° E. of Paris. The cost of subscription in this country is 12*s.* 6*d.* for the three months, but as only a limited number is printed, application should be made at once to Mr. R. H. Scott, director of the Meteorological Office, 116, Victoria Street, London, S.W.

WE understand that Prof. Boyd Dawkins, of Owens College, leaves this week for Sydney, *via* the Suez Canal. After conducting a geological exploration in Australia, he intends returning by San Francisco, reaching England in October, thus making the circuit of the world in about 120 days.

AT its last sitting the Council of the Paris Observatory passed resolutions relating to the observation of intra-Mercurial planets and the determination of the velocity of light by the satellites

of Jupiter and by aberration. These last researches are intended for the verification of the numbers obtained by the parallax of the sun and by Cornu's direct experiments. A beginning will be made as soon as the necessary funds have been granted by the Ministry. The intra-Mercurial planets are to be observed photographically when crossing the disc of the sun. These researches will be commenced as soon as the fitting up for photographic purposes of the great Arago refracting telescope is finished.

It is expected that the French Academy of Sciences will hold its annual meeting for distribution of prizes on the 21st inst.

M. LABOULAYE, a Professor in the College of France and an influential member of the French Assembly, read, at the sitting of the latter on June 5, a report, drawn up by him, in the name of a special commission, asking the establishment in France of Free Universities. M. Wallon, the French Minister of Public Instruction, is said to be greatly in favour of the scheme.

A STRANGE case of poisoning is reported from Stettin. A gentleman had bought a hat in a shop there, and, after having worn it for one or two days, was troubled with unbearable headache; at the same time little ulcers formed upon his forehead, his eyes were inflamed, and the whole of the upper part of his head was much swollen. It was evident that these symptoms were caused by the hat, and upon examination by a chemist it was found that the brown leather in the inside of the hat was coloured with a poisonous aniline dye. It appears that inflammation is unavoidable when this dye is in contact with any part of the skin.

DR. OSCAR FRAAS, director of the Natural History Museum and Professor of Geology at Stuttgart, has arrived at Beyrût, invited by Rustem Pasha; he intends to study the Lebanon geologically and mineralogically, and to work out a geological map of that range of mountains.

THE great meeting of German ornithologists took place at Brunswick on May 20-23. Brehm, Cabanis, Homeyer, Blasius, Reichenow, Pralle, and many other members of the two ornithological societies, were present. The first meeting led to the union of the two societies. It was resolved to request all the members to report to a Committee from time to time all observations of interest to science, agriculture, or the economy of forests, that they may make, on the life, manners, use, &c., of German birds. The Committee is to publish the materials thus obtained, after due consideration and sifting.

IN a letter dated Constantinople, May 20, the *Kölnische Zeitung* gives some details on the earthquake which took place on the west coast of Asia Minor. On the 11th of May, at 5 A.M., a severe shock was felt at Smyrna which lasted several seconds. Two other shocks followed the same morning, and although many houses were shaken, yet none fell. It is thought that the centre of the earthquake was in the Sporades Islands. According to other reports on the dreadful earthquake of the 3rd-5th of May in the interior, the sources of the Mæander river were indicated as the centre of the volcanic action. This point is situated in the canton of Ishikli, to the south of Ushak and Afium Karahissar. The destruction was fearful at Ishikli: about 1,000 houses were completely destroyed and several thousand people killed; only about twenty dwelling-houses and two mosques are now standing. In the village of Yivril not one of 300 houses is left, and about 450 dead have been extricated from the ruins. Not far from there an immense chasm has formed in the ground, from which is running a stream of hot water. The village of Yaka is likewise annihilated. In other villages, as Savasli, Karayapli, &c., the inhabitants escaped with a violent shock.

A REUTER'S telegram, dated New York, June 7, states that an earthquake has occurred at the Loyalty Islands, a tidal wave at the same time sweeping over three villages.

At a meeting of the Upper-Rhenish Geological Society, which took place at Donaueschingen on May 23, Dr. Knop, of the Polytechnic Institution of Karlsruhe, read an interesting paper on the phenomenon of disappearance of the waters of the Danube, in some rugged piece of ground over which the river flows near Immendingen. Dr. Knop has been ordered by the Baden Government to investigate the matter scientifically. It is supposed that the little river Aach, which flows into the Lake of Constance, and thus into the Rhine, is the result of this phenomenon, as there can be no doubt that the volume of the Danube is considerably diminished after having passed over the spot in question. The present, *i.e.* the visible source of the Aach, is near the village of the same name, and the river flows from a cavern of several hundred feet in circumference, from underneath overhanging rocks, with great velocity and force; it turns several waterwheels close to its source. A chemical analysis of its water is now being made, with a view of ascertaining whether the water is of the same composition, *i.e.* contains the same impurities as that of the Danube.

SEVERAL writers in the *Belgique Horticole* have given the results of their experience in managing marine aquariums. A certain Mr. Bauwens says that he has possessed a marine aquarium now nearly ten years, and the sea-water has never been renewed. All that he does is to add fresh water as the salt water evaporates, the same degree of saltiness being invariably maintained. Various species of small seaweeds and several molluscs thrive without further care, but some species of Actinia raised in the same medium were starved to death when the owner was absent from home for a considerable time. He made it a practice to feed them with a little mould, worms, or even raw meat.

THE quality of water in relation to its fauna and flora has been the subject of investigation by some of the French Academicians. In substance the results seem to prove that water in which animals and plants of higher organisation will thrive is fit to drink; and, on the other hand, water in which only the infusoria and lower cryptogams will grow is unhealthy. If the water become stagnant and impure, aquatic plants of the higher order will languish and disappear, and the half-suffocated fish will rise near the surface and crowd together in parts where there may still be a little of the purer element trickling in, and if driven from these places they soon die. *Physa fontinalis* will only live in very pure water; *Valvata piscinalis* in clear water; *Limnæa ovata* and *stagnalis* and *Planorbis marginatus* in ordinary water; and, finally, *Cycas cornea* and *Bithynia impura* in water of middling quality—but no mollusc will live in corrupt water. Plants also exercise a reactive influence on the quality of water. The most delicate appears to be the common watercress, the presence of which indicates excellent quality. Veronicas and the floating water-weeds flourish only in water of good quality. The water-plantain, mints, loosestrife, sedges, rushes, water-lilies, and many others, grow perfectly well in water of moderately good quality. Some of the sedges and the arrow-heads will thrive in water of very poor quality. The most hardy or least exacting in this respect is the common reed, or *Phragmites communis*.

AMONGST the recent additions to the Southport Aquarium are a Sturgeon, seven-and-a-half feet in length, captured at low tide in the estuary of the Ribble, and a large specimen of the Wolf Fish (*Anarrhichas lupus*), from Norway.

THE foundation-stone of an aquarium was laid at Rothesay, in the Island of Bute, on Saturday.

TO-DAY, at the Mansion House, a public meeting will be held in connection with the Cambridge University Extension Scheme; the Lord Mayor will preside.

IN last week's *Journal* of the Society of Arts will be found a very interesting paper by Mr. P. F. Nurse, C.E., on Toughened Glass.

THE Conversazione of the Society of Arts will be held on the 25th inst. at South Kensington Museum.

MR. WATTS, who visited Iceland last year, and ascended the Vatna Jökul to a higher point than had previously been reached by any traveller, sailed from Granton last week for Reykjavik. He is to resume his travels in the interior of Iceland during the present summer. There is still a large portion of the island unexplored, and, as it is very mountainous and covered in some places with perpetual snow, the work of exploration is attended with great danger and difficulty. With the assistance of some of the Icelanders, however, it is hoped that this inhospitable region may be crossed over and examined, so that its topographical and mineralogical character may be determined more exactly than has yet been done.

A LETTER from the Secretary of the Italian Society of Sciences to the Paris Academy, states that the Italian *savants* have agreed to support a proposition issued by the Royal Society of Edinburgh, that the large tables of logarithms calculated by M. Prouy should be published at the common expense of all nations wishing to contribute to an enterprise of common interest for mankind. These tables were calculated as far back as the beginning of the present century, at the expense of the French Government. The manuscript, which escaped the vandalism of the Communists, is safe in the Archives of the Academy, and cannot be published solely for want of funds.

DR. NACHTIGALL, the African explorer, has received the commands of the German Emperor to wait upon his Majesty at Ems. The Berlin Geographical Society gave Dr. Nachtigall an enthusiastic reception on the 2nd inst., at which the eminent traveller briefly sketched his six years' work in North Africa. The reception was followed by a banquet in the Zoological Gardens, at which Dr. Nachtigall received an autograph letter from the Emperor conferring upon him the Order of the Royal Crown. On Tuesday last the traveller was received in audience by the Imperial Crown Prince at the new Palace at Potsdam.

PREPARATIONS are being made for the erection of a handsome new museum in Dunedin, New Zealand.

THE boys and girls who assembled in the theatre of London University on Monday for the distribution of prizes and certificates gained in the Cambridge University local examinations were particularly fortunate in having as chairman Sir W. V. Harcourt. The address he gave was unusually pointed and impressive; the criticism he made on the results of these examinations, and the wholesome truths he uttered on what education really means, must have had an excellent effect on many of those who heard them, both old and young. "The object of education," the chairman reminded his hearers, "was not the immediate knowledge which it gave them, but it was the instrument by which they might learn hereafter." When parents and teachers are universally impressed with this great truth, we may expect to see something like a revolution take place in our educational systems. These local examinations have one excellent result in bringing out the directions in which particular classes of pupils are apt to fail, and ought to be of great service to teachers who aim at making a science of their profession.

OWENS COLLEGE, Manchester, has received the first instalment, 57,000 dols., of a legacy left to it by Mr. Charles Clifton, an American engineer, a native of Yorkshire. A considerable additional balance is expected to be handed over presently.

THE *Pandora*, three-masted schooner, originally a despatch vessel belonging to the Government, and which was purchased a few months ago from the Admiralty for private Arctic exploration,

is now lying in the inner dock at Southampton, after having undergone a thorough overhaul and refit. The *Pandora* has been specially adapted for an Arctic cruise. She will leave England about the 18th inst., and, as Lady Franklin is understood to be largely interested in her equipment, the *Pandora* will probably follow in the footsteps of M^cClintock in search of further remains of Sir John Franklin. The vessel is propelled by a feathering screw, is of 439 tons burden, and a quick sailer. The *Pandora* will be commanded by Mr. Allen Young, who has already seen much Arctic service, and Lieut. Lillingston, R.N.

JUST before the leaving of the Arctic Expedition a deputation from the Bremen North Pole Society visited Portsmouth with a view to consulting Capt. Nares regarding co-operation between the English Expedition and a German Expedition which may possibly be sent out next year.

THE first Annual Report of the Yorkshire College of Science at Leeds is as satisfactory as could be expected. The College was opened in the end of last October with three professors—A. W. Rücker, Mathematics and Physics; Dr. T. E. Thorpe, Chemistry; and A. H. Green, Geology and Mining. Though the number of day-students has been small, the professors report in satisfactory terms of the progress that has been made. In addition to the day lectures, short courses of evening lectures have been given, which have been most successful. At the request of the Wakefield branch of the Ladies' Council of the Yorkshire Board of Education, arrangements were made for the delivery at Wakefield of a course of lectures, by Prof. Green, on the Geology of the West Riding; the lectures were in every way a success, and this field of operations is likely to be developed. The Clothworkers' Company had endowed a Chair of Textile Industries; the professor, Mr. W. Walker, commenced his lectures to a good class, but for some reason resigned his chair in January. On the whole, this Report is an encouraging one, and if the friends of the scheme only persevere and see that the College is founded on a sufficiently broad basis, we have no doubt of its ultimate complete success.

THE following statistics have been published by the French Minister for Public Instruction:—Thirty per cent. of the population cannot read or write, but the proportion is smaller amongst the males, as the conscription lists give only nineteen per cent. at nineteen years of age. There are thirteen scholars for every 100 inhabitants, and one school for every 500, or 70,000 schools for the whole of France. The expenses of primary education are 70,000,000 fr.—about 40*l.* per school, or about 1*s.* 8*d.* per head of inhabitants, or 12*s.* per pupil.

WE regret to learn from the *Geographical Magazine* that through the omission of the French Commissioners to ask the German Government to appoint a Commissioner to the forthcoming Geographical Exhibition at Paris, it is not likely to be very complete so far as maps are concerned. The absence of the great German map-publishing firms would be matter for regret.

THE additions to the Zoological Society's Gardens during the past week include a Brown Capuchin (*Cebus fatuellus*) from Guiana, presented by Mr. Charles Wilson; a Kuhl's Deer (*Cervus Kuhlii*) from the Bavarian Islands, two Victoria Crowned Pigeons (*Goura Victoriae*) from the Island of Jobie, two Bornean Fireback Pheasants (*Euplocamus nobilis*) from Borneo, two Great Black Cockatoos (*Microglossa aterrima*) from New Guinea, a Derbian Screamer (*Chauna derbiana*) from S. America, purchased; a Chimpanzee (*Troglodytes niger*) from W. Africa, six Argus Pheasants (*Argus giganteus*) from Malacca, deposited; four Peacock Pheasants (*Polyplectron chinquis*), an Eland (*Oreos canna*), and a Virginian Deer (*Cervus virginianus*) born in the Gardens.